



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Choi et al.
App. No.: 10/806,956 GPAU: 2834
Filing Date: March 23, 2004 Examiner: Thomas M. Dougherty
Dkt. No.: PA128-04D09 Conf. No.: 2332
For: APPARATUS TO CONTROL DISPLACEMENT OF A BODY SPACED-APART
FROM A SURFACE

INFORMATION DISCLOSURE STATEMENT

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following information is submitted in compliance with Applicants' duty of disclosure and pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98. The undersigned brings the patents, publications, applications or other information identified in the attached:

- ☒ Form(s) PTO/SB/08A and/or PTO/SB/08B or PTO/1449
☐ Other:

to the Examiner's attention in the above-identified application. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

For the Examiner's convenience, items that were cited in the parent patent application are marked with bold font and, therefore, copies are not re-supplied.

This Information Disclosure Statement is being filed:

during the period specified in § 1.97(c). Accordingly, the fee set forth in § 1.17(p) is required and provided as shown on the attached Fee Transmittal.

The Commission is hereby authorized to charge the \$180.00 fee to the Molecular Imprints, Inc. Deposit Account, No. 502650. If the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 502650.

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as either First Class Mail or Express Mail, in an envelope addressed to the Commissioner for Patents.

Signed: *Katrina Prati*

Typed Name: Katrina Prati

Date: 3-23-05

Respectfully Submitted,



Kenneth C. Brooks,
Reg. No. 38,393
Legal Department
Molecular Imprints, Inc.
P.O. Box 81536
Austin, TX 78758-1536
(512) 339-7760
(512) 491-8918 (fax)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 5

Complete if Known

| | |
|-------------------------------|----------------------|
| APPLICATION NUMBER | 10/806,956 |
| FILING DATE | 03/23/2004 |
| FIRST NAMED INVENTOR | Choi et al. |
| Group Art Unit | 2834 |
| Examiner Name | Dougherty, Thomas M. |
| Attorney Docket Number | PA128-04D09 |

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
| | | Number | Kind Code ² (if known) | | | |
| | D1 | 4,731,155 | | Napoli et al. | 3/15/1988 | |
| | D2 | 5,425,848 | | Haisma et al. | 6/20/1995 | |
| | D3 | 5,772,905 | | Chou | 6/30/1998 | |
| | D4 | 6,309,580 | B1 | Chou | 10/30/2001 | |
| | D5 | 6,334,960 | B1 | Willson et al. | 1/1/2002 | |
| | D6 | 6,391,217 | B2 | Schaffer et al. | 5/21/2002 | |
| | D7 | 6,696,220 | B2 | Bailey et al. | 2/24/2004 | |
| | D8 | 2002/0177319 | A1 | Chou | 11/28/2002 | |
| | D9 | 6,713,238 | B1 | Chou et al. | 3/30/2004 | |
| | D10 | 3,527,062 | | Bilinski et al. | 9/8/1970 | |
| | D11 | 5,063,321 | | Carter | 11/5/1991 | |
| | D12 | 5,270,984 | | Mine | 12/14/1993 | |
| | D13 | 6,411,010 | B1 | Suzuki et al. | 6/25/2002 | |
| | D14 | 6,467,761 | B1 | Amatucci et al. | 10/22/2002 | |
| | D15 | 6,518,189 | B1 | Chou | 2/11/2003 | |
| | D16 | 2004/0192041 | A1 | Jeong et al. | 9/30/2004 | |
| | D17 | 6,188,150 | B1 | Spence | 2/13/2001 | |
| | D18 | 6,828,244 | B2 | Chou | 12/7/2004 | |

Examiner
SignatureDate
Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

| | | | | | |
|---|---|----|---|-------------------------------|----------------------|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Complete if Known | |
| | | | | APPLICATION NUMBER | 10/806,956 |
| | | | | FILING DATE | 03/23/2004 |
| | | | | FIRST NAMED INVENTOR | Choi et al. |
| | | | | Group Art Unit | 2834 |
| | | | | Examiner Name | Dougherty, Thomas M. |
| | | | | Attorney Docket Number | PA128-04D09 |
| Sheet | 2 | of | 5 | | |

| U.S. PATENT DOCUMENTS | | | | | | |
|-----------------------|-----------------------|----------------------|--------------------------------------|---|--|---|
| Examiner Initials* | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number | Kind Code ² (if known) | | | |

| | | | | | | |
|--|-----|--------------|----|---------------------|------------|--|
| | D19 | 6,809,356 | B2 | Chou | 10/26/2004 | |
| | D20 | 2004/0197843 | A1 | Chou et al. | 10/7/2004 | |
| | D21 | 2004/0156108 | A1 | Chou et al. | 8/12/2004 | |
| | D22 | 2004/0137734 | A1 | Chou et al. | 7/15/2004 | |
| | D23 | 2004/0131718 | A1 | Chou et al. | 7/8/2004 | |
| | D24 | 2004/0118809 | A1 | Chou et al. | 6/24/2004 | |
| | D25 | 2004/0046288 | A1 | Chou | 3/11/2004 | |
| | D26 | 2003/0080472 | A1 | Chou | 5/1/2003 | |
| | D27 | 2003/0034329 | A1 | Chou | 2/20/2003 | |
| | D28 | 2002/0042027 | A1 | Chou et al. | 4/11/2002 | |
| | D29 | 6,580,172 | B2 | Mancini et al. | 6/17/2003 | |
| | D30 | 4,512,848 | | Deckman et al. | 4/23/1985 | |
| | D31 | 6,517,995 | B1 | Jacobenson et al. | 2/11/2003 | |
| | D32 | 2004/0110856 | A1 | Young et al. | 6/10/2004 | |
| | D33 | 5,028,366 | | Harakal et al. | 7/2/1991 | |
| | D34 | 5,601,641 | | Stephens | 2/11/1997 | |
| | D35 | 5,849,209 | | Kindt-Larsen et al. | 12/15/1998 | |
| | D36 | 5,849,222 | | Jen et al. | 12/15/1998 | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

| | | | | | |
|--|---|----|---|-----------------------------|----------------------|
| Substitute for form 1449A/PTO | | | | Complete if Known | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | APPLICATION NUMBER | 10/806,956 |
| | | | | FILING DATE | 03/23/2004 |
| | | | | FIRST NAMED INVENTOR | Choi et al. |
| | | | | Group Art Unit | 2834 |
| | | | | Examiner Name | Dougherty, Thomas M. |
| Sheet | 3 | of | 5 | Attorney Docket Number | PA128-04D09 |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|----------------|
| Examiner Initials [*] | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Office ³ | Number ⁴ | Kind Code ⁵ (if known) | | | | |

| | | | | | | | | |
|--|-----|----|-------------|--|--------------|------------|--|--|
| | D37 | WO | 2004/016406 | | Sreenivasan | 2/26/2004 | | |
| | D38 | WO | 02/07199 | | Chou | 1/24/2002 | | |
| | D39 | WO | 2004/114016 | | Chou et al. | 12/29/2004 | | |
| | D40 | WO | 99/05724 | | Chou et al. | 2/4/1999 | | |
| | D41 | WO | 03/010289 | | Chou et al. | 2/6/2003 | | |
| | D42 | WO | 03/079416 | | Chou | 9/25/2003 | | |
| | D43 | WO | 03/099536 | | Chou et al. | 12/4/2003 | | |
| | D44 | WO | 2004/013693 | | Watts et al. | 2/12/2004 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

| | | | | | |
|---|--|--|--|---------------------------------|----------------------|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Complete if Known | |
| | | | | APPLICATION NUMBER | 10/806,956 |
| | | | | FILING DATE | 03/23/2004 |
| | | | | FIRST NAMED INVENTOR | Choi et al. |
| | | | | Group Art Unit | 2834 |
| Sheet | | | | Examiner Name | Dougherty, Thomas M. |
| 4 of 5 | | | | Attorney Docket Number | PA128-04D09 |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | | | |
|---|--------------------------|---|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |

| | | | |
|--|-----|--|--|
| | D45 | Chou, Nanoimprint Lithography and Lithographically Induced Self-Assembly, MRS Bulletin, pp. 512 - 517, 7/1/2001 | |
| | D46 | Choi et al., Design of Orientation Stages for Step and Flash Imprint Lithography, Precision Engineering, pp. 192 - 199, 1/1/2001 | |
| | D47 | Colburn et al., Step and Flash Imprint Lithography for sub-100 nm Patterning, Proceedings of SPIE Vol. 3997, pp. 453 - 457, 1/1/2000 | |
| | D48 | Chou et al., Imprint Lithography with 25-Nanometer Resolution, Science Vol. 272, pp. 85 - 87, 4/5/1996 | |
| | D49 | Chou et al., Imprint Lithography with Sub-10 nm Feature Size and High Throughput, Microelectronic Engineering 35, pp. 237 - 240, 1/1/1997 | |
| | D50 | Haisma et al., Mold-assisted Nanolithography: A Process for Reliable Pattern Replication, J. Vac. Sci. Technol. B, pp 4124 - 4128, 11/1/1996 | |
| | D51 | Chou et al., Imprint of Sub-25 nm Vias and Trenches in Polymers, Appl. Phys. Lett. 67 (21), 11/20/1995 | |
| | D52 | Johnson et al., Advances in Step and Flash Imprint Lithography, SPIE Microlithography Conference, 2/23/2003 | |
| | D53 | Chou et al., Lithographically Induced Self-assembly of Periodic Polymer Micropillar Arrays, J. Vac. Sci. Technol. B 17 (6), pp. 3197 - 3202, 11/1/1999 | |

| | | | |
|-------------------------------|--|----------------------------|--|
| Examiner Signature | | Date Considered | |
|-------------------------------|--|----------------------------|--|

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

| | | | | | |
|--|--|--|--|---------------------------------|----------------------|
| Substitute for form 1449A/PTO | | | | Complete if Known | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | APPLICATION NUMBER | 10/806,956 |
| | | | | FILING DATE | 03/23/2004 |
| | | | | FIRST NAMED INVENTOR | Choi et al. |
| | | | | Group Art Unit | 2834 |
| | | | | Examiner Name | Dougherty, Thomas M. |
| Sheet 5 of 5 | | | | Attorney Docket Number | PA128-04D09 |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | | | |
|---|--------------------------|---|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |

| | | | |
|--|-----|---|--|
| | D54 | Colburn et al., Step and Flash Imprint Lithography: A New Approach to High-Resolution Patterning, Proc. Of SPIE, vol. 3676, 3/1/1999 | |
| | D55 | Chou et al., Ultrafast and Direct Imprint of Nanostructures in Silicon, Nature, Col. 417, (June 2002), pp. 835-837, 6/1/2002 | |
| | D56 | Chou et al., Nanoimprint Lithography, Journal of Vacuum Science Technology B 14(16), pp. 4129-4133, 11/1/1996 | |
| | D57 | Colburn et al., Development and Advantages of Step-and-Flash Lithography, Solid State Technology, 7/1/2001 | |
| | D58 | Colburn et al., Characterization and Modeling of Volumetric and Mechanical Properties for Step and Flash Imprint Lithography Photopolymers, Journal of Vacuum Science Technology. Vol b. 19(6), 11/1/2001 | |
| | D59 | Bailey et al., Step and Flash Imprint Lithography: Defect Analysis, Journal of Vacuum Science, B 19(6), pp. 2806-2810, 11/1/2001 | |
| | D60 | Bailey et al., Step and Flash Imprint Lithography: Template Surface Treatment and Defect Analysis, Journal of Vacuum Science, B 18(6), pp. 3572-3577, 11/1/2000 | |
| | D61 | Schneider et al., Stripes of Partially Fluorinated Alkyl Chains: Dipolar Langmuir Monolayers | |
| | | | |

| | | | |
|-----------------------|--|--------------------|--|
| Examiner Signature | | Date Considered | |
|-----------------------|--|--------------------|--|

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.